



RHODE ISLAND
DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
235 Promenade Street, Providence, RI 02908-5767 TDD 401-222-4462

June 9, 2006

CERTIFIED MAIL

Alan Sepe, Acting Director
Department of Public Properties
City of Providence
25 Dorrance Street
Providence, RI 02903

RE: Order of Approval, Proposed Providence Public School Site – Parcel B
Formerly a portion of the Gorham/Textron Dump site, 333 Adelaide Avenue, Providence
City of Providence Tax Assessor's Office Plat 51, Lot 323, Parcel B
Case No. 2005-029 (Formerly part of Case No. 97-030)

Dear Mr. Sepe:

Enclosed please find the Order of Approval (Order) for the proposed remediation plan for the above referenced facility. Please review the stipulations of this Order thoroughly to ensure your compliance with the requirements. This Order places primary responsibility for the construction, operation, maintenance and monitoring of the approved Remedial Action Work Plan (RAWP) on the City of Providence (City). In order to enable the Department to monitor the City's compliance with the RAWP, the Order requires the City to notify the Department of any condition that is non-compliant with the Order or that constitutes an interruption of the RAWP. In order to maintain compliance with the Order and the RAWP, the City's responsibilities under the Order necessarily include the responsibility to respond to and correct non-compliant conditions in a timely, proactive and professional manner that minimizes non-compliance with the Order and RAWP, and protects human health and the environment.

Please notify this office 48 hours prior to the beginning of any work related to the remediation of the property. If you have any questions regarding this matter, please contact me at (401) 222-2797 x7109.

This Order shall be recorded in the land evidence records of the City of Providence as required by law, and a recorded copy must be returned to the Department within 7 days of recording.

Sincerely,

Joseph T. Martella II
Senior Engineer, Office of Waste Management

cc: Terrence D. Gray, P.E., Assistant Director, RIDEM/AW&C
Leo Hellested, P.E., Chief, RIDEM/OWM
Kelly J. Owens, RIDEM/OWM
Brian Wagner, Esq., RIDEM/OLS
Christopher Walusiak, RIDEM/OWM
Douglas McVay, RIDEM/OAR
Barbara Morin, RIDEM/OAR
Dr. Robert Vanderslice, PHD, RIDOH
Hon. David N. Cicilline, Mayor, City of Providence
Senator Juan M. Pichardo, District 2
Representative Thomas Slater
Providence City Councilman Ronald Allen
John J. Lombardi, City of Providence
Thomas Deller, City of Providence
Mary McClure, President – Providence School Bd.
Sara Rapport, Esq., City of Providence
James Ryan, Esq, PS&H
Peter M. Grivers, EA
Gregory L. Simpson, Textron
Gerald Petros, Esq., Hinkley Allen
Steven Fischbach, Esq., RILS
Knight Memorial Library – Project Repository

RHODE ISLAND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

**In the matter of Remedial Action Approval at:
Proposed Providence Public School Site – Parcel B
(Formerly a portion of the Gorham/Textron Dump site)
333 Adelaide Avenue, Providence, RI, Plat 51, Lot 323 (the Site)**

Case No. 2005-029

ORDER OF APPROVAL

In the above entitled matter wherein the following documents have been filed by or on behalf of the **City of Providence (City), in its capacity as owner and Responsible Party for the remediation of property located at 333 Adelaide Avenue, Providence,** or are otherwise on record with the Rhode Island Department of Environmental Management (the Department):

1. Remedial Action Work Plan, Former Gorham Manufacturing Facility, Parcel B, Adelaide Avenue, Providence, Rhode Island (RAWP), prepared by EA Engineering, Science, and Technology, Inc. (EA), dated April 2006, received April 26, 2006;
2. Electronic mail from EA to the Department, Re: Gorham ... Proposed Indoor Air Sampling, dated April 28, 2006;
3. Department Comment Letter, Re: Remedial Action Work Plan Comments - Proposed Providence Public School Site, (Former) Gorham Textron Dump Property, 333 Adelaide Avenue, Parcel B, Providence, City of Providence Tax Assessor's Office Plat 51, Lot 323, Parcel B, Case No. 2005-029 (Formerly part of Case No. 97-030), dated May 23, 2006;
4. Response to RAWP Comments, Former Gorham Manufacturing Facility, Parcel B, 333 Adelaide Avenue, Providence, Rhode Island, Case No. 2005-029, prepared by EA, dated May 25, 2006;
5. Letter from EA to the Department, Re: Draft ELUR for Parcel B Former Gorham Manufacturing Facility, Parcel B, 333 Adelaide Avenue, Providence, Rhode Island, Case No. 97-030 (Including Case No. 2005-029 and Case No. 2005-059), including a draft copy of the proposed Environmental Land Usage Restriction, delivered in PDF format via e-mail, dated June 7, 2006; and
6. Letter from Mark V. Dunham, Chief Financial Officer, Providence School Department, Re: Response to RAWP Comment No. 6, Former Gorham Manufacturing Facility, Parcel B, 333 Adelaide Avenue, Providence, Rhode Island, Case No. 2005-029, dated June 6, 2006, received via facsimile machine on June 8, 2006.

Subject to the conditions herein, these documents fulfill the requirements of Section 9.00 (Remedial Action Work Plan) of the Department's Rules and Regulations for the Investigation and Remediation of Hazardous Materials Releases (Remediation Regulations), as amended February 24,

2004, and describe a plan to remediate existing contamination pursuant to 23-19.14-1 et seq. and Department's Remediation Regulations, amended February 24, 2004 in accordance therewith.

This Order of Approval (Order) places primary responsibility for the construction, operation, maintenance and monitoring of the approved Remedial Action Work Plan (RAWP) on the City. In order to enable the Department to monitor the City's compliance with the RAWP, the Order requires the City to notify the Department of any condition that is non-compliant with the Order or that constitutes an interruption of the RAWP and to take immediate action to correct the non-compliant condition. In order to maintain compliance with the Order and the RAWP, the City's responsibilities under the Order necessarily include the responsibility to independently and proactively respond to and correct non-compliant conditions in a timely manner.

As the responsible party and performing party, the City is expected to implement the RAWP semi-autonomously; i.e. with Department oversight but without the need for constant Department direction or approval of the City's activities. The City is also responsible for promptly addressing non-compliant site conditions (e.g. equipment malfunctions or exceedances of established contaminant limits). Upon identifying any non-compliant condition, the City is expected to act accordingly to develop and implement an appropriate response to re-establish compliance. The City's response(s) to non-compliant conditions must be implemented in an expeditious and professional manner that minimizes non-compliance with the Order and RAWP, and protects human health and the environment.

It is the Department's intent that this Order implement clear and specific timelines for deliverables that must be met by the City with respect to the on-site monitoring, reporting and operation & maintenance requirements necessary to maintain the Remedy in a state of compliance. Upon consideration thereof, and in accordance with Rule 10.1 (Remedial Action Approvals) of the Remediation Regulations, the Department conditionally approves said RAWP through this Order, provided that:

- 1) All work, operations, activities and schedules shall be performed in accordance with the terms and conditions of this Order, the Department approved RAWP, and all other applicable federal, state and local laws and regulations.
- 2) The City shall prepare and distribute a community notice to the residents in the reservoir triangle neighborhood and to other interested parties (e.g. community groups and local elected officials). The notice shall be printed in English and Spanish and shall include an estimated schedule for remedial activities and construction, a brief description of the work to be performed and the precautions to be taken to protect the community, and relevant contact information for the City and its on-site contractors (name, phone, e-mail ... etc.) for questions and complaints.
- 3) Work shall be initiated at the Site within thirty (30) days of receipt of this Order.

- 4) No hazardous waste shall be accepted from any off-site sources for treatment or disposal at the Site.
- 5) Sampling and analysis of all media involved in the Remedial Action shall be conducted in accordance with the requirements of the RAWP and this Order.
- 6) The Site remedy as described in the RAWP shall incorporate the following:
 - a) All work, operations, and activities shall be performed to ensure the applicable remedial objectives for the site are achieved for all hazardous substances at the site, so as to manage actual or potential risks to human health and the environment.
 - b) Encapsulation of all regulated site soils through the installation of Department approved engineered controls (including the building foot print, side walks, asphalt parking areas, landscaped areas, or other engineered caps). A Department approved engineered control shall cover every portion of Parcel B up to the "barrier to prevent access to the Park Parcel" described in the March 29, 2006 Superior Court Consent Order (Parcels B & C). All engineered controls shall provide a level of protection equivalent to a minimum of two feet of clean soil. Any additional proposed engineered control design, not previously described in the RAWP and approved through this Order, must be submitted to the Department for approval prior to installation. Engineered control caps consisting of concrete pavement or walkways shall be completed with a minimum six (6) inch base of appropriate clean material covered with a minimum of four (4) inches of concrete. All engineered controls over areas known or suspected to be subject to the Solid Waste Regulations, and under the jurisdiction of the Solid Waste Program, shall consist of a minimum of two feet of clean soil. All regulated site soils and engineered controls shall be subject to an Environmental Land Usage Restriction (ELUR).
 - c) Construction, installation, maintenance and continuous operation of an active sub-slab ventilation (SSV) system designed to extract soil vapor from under the building, and to prevent the accumulation and/or buildup of methane gas or volatile organic compounds (VOCs), and to ensure levels of methane and or VOCs are maintained below applicable "Action Levels." The SSV system shall also be equipped with an alarm system, and system operation and maintenance will include periodic monitoring of methane and VOC levels below the building, within the building, and in the extracted soil vapor.
 - d) Following the installation of the sub-slab ventilation system, its proper operation shall be tested to demonstrate compliance with the Department approved performance criteria in the final RAWP, and to verify actual emission values, in order to determine if treatment, a permit, or registration for the SSV system is required under the Department's Office of Air Resources (OAR) Air Pollution Control (APC) Regulation No. 9.

- e) Implementation of a long term vapor and air-monitoring program sufficient to ensure site conditions are maintained in compliance with the applicable remedial objectives. Said monitoring program shall include at a minimum:
 - i) Incorporation of remedial "Action Levels" as follows:
 - (1) Within buildings, the remedial Action Level shall be 1 percent of the methane lower explosive limit (LEL).
 - (2) Under buildings, the remedial Action Level shall be 10 percent of the methane LEL.
 - (3) The remedial Action Level for VOCs shall be the Connecticut Residential Proposed Target Indoor Air Concentrations (TACs). An appropriate analytical method shall be selected with a detection limit sufficiently sensitive to allow proper comparison of detected VOC concentrations to each applicable TAC (e.g. speciated VOCs using EPA method TO-15).
 - ii) The proposed location of each interior methane monitor/alarm (i.e. continuous within the buildings), as well each proposed interior and sub slab sample collection location shall be provided to the Department prior to installation.
 - iii) Performance of baseline ambient air monitoring within the subsurface slab area and the building interior shall be conducted, prior to system start up and any occupancy, to evaluate concentrations of methane and VOCs at the site.
 - iv) The schedule for periodic compliance monitoring shall be weekly from system start-up through the first quarter of system operation, followed by monthly provided that there are no exceedances of the applicable remedial Action Levels. After successfully demonstrating one year of continuously compliant system operation, the City may petition the Department to decrease the required monitoring frequency.
 - v) A minimum of three (3) representative sub slab monitoring locations shall be sampled and analyzed for both methane and VOCs. In the event that concentrations of VOCs in the sub slab air are detected at a level which exceeds an Action Level, VOC samples shall immediately be collected and analyzed from correspondingly representative interior monitoring locations.
 - vi) In the event that a remedial Action Level is exceeded in a location that is already being addressed by the active sub-slab ventilation system (i.e. indoor air or under a building), the City shall immediately notify the Department by telephone and respond to and correct non-compliant conditions in a timely manner. Written notification to the Department shall follow within seven (7) days with any plans to upgrade or adjust the system to remedy the problem, including steps taken to address the non-compliance. It shall be the City's responsibility to assess immediate threat or emergency situations and to address non-compliant conditions in an expeditious and professional manner that minimizes non-compliance with the Order and RAWP, and protects human health and the environment.
 - vii) Each of the interior methane monitors shall be operated continuously and be connected to the remote alarm system in such a manner as to trigger the alarm should the concentration of methane in any building exceed the remedial Action Level of 1 percent of the methane LEL. Each interior methane monitor shall be powered in a manner such that operation will not be interrupted during a power failure. In the event that the

- concentration of methane in any building exceeds the remedial Action Level of 1 percent of the methane LEL, the City shall act accordingly to develop and implement an appropriate response to re-establish compliance, and protect human health and the environment. Response protocols may include, but not necessarily be limited to, building evacuation, notification of the Providence Fire Department via "911", notification of the Department, and other steps, as appropriate, designed to identify and correct any alarm system or SSV system-related problems that may have contributed to site conditions, which caused the methane sensor alarm.
- viii) All equipment shutdowns (intentional and unintentional) or operational problems shall be reported to the Department immediately. Intentional equipment shutdowns for regular maintenance shall not require immediate notification to the Department provided that the shutdown is for less than twenty-four (24) hours and the maintenance activity is discussed in the next quarterly report.
 - ix) Monitoring of methane and VOCs shall continue at the specified rate as long as a source of contamination exists.
- f) Preparation and submission of quarterly air monitoring reports in accordance with this Order, and including the recording of the following parameters:
- i) The concentrations of methane and VOCs detected in each sample collected and analyzed during monitoring activities for the current reporting period.
 - ii) A summary table of the concentrations of methane and VOCs detected in each sample collected and analyzed during prior reporting periods.
 - iii) The occurrences of any alarm activations during the quarter and the resulting activities performed in response to the alarm activation.
 - iv) The occurrences of any remedial Action Level exceedances during the quarter and resulting activities performed in response to the exceedance.
 - v) The system operational status during the quarter, particularly noting the length of any system shutdown due to power failure, system malfunction, repairs, scheduled maintenance, etc.
 - vi) The anticipated delivery date of the next scheduled monitoring report submittal.
- g) Management of all Site soil in accordance with the requirements of the RAWP and this Order.
- h) Implementation of appropriate procedures to manage, control and monitor regulated soil, asbestos containing material (ACM) and dust in a manner consistent with the asbestos and fugitive dust management precautions employed during the Department-approved Limited Remedial Action Work Plan (LRAWP) for Parcel B, except as amended by the RAWP, including but not limited to:
- i) Real-time dust monitoring shall be conducted at the perimeter of the site to ensure that site activities do not create unacceptable impacts to off-site air quality and risks to nearby populations. Dust monitoring results must be submitted to the Department

- on a weekly basis, at a minimum, and be made part of the Operating Log for the RAWP. The Department must be immediately notified of any exceedances of any approved action levels (see above referenced LRAWP), any corrective action that was performed, and the results and effectiveness of corrective action measures.
- ii) Regular application of water to the work area or any area of soil disturbance to control dust through the use of either a water truck equipped with multiple spray nozzles and a manual hose attachment, or multiple oscillating water sprinklers.
- i) Preparation and submission of a Remedial Action Closure Report documenting the work performed and including at a minimum the following items:
 - i) A post remediation survey of the entire site with as-built plans demarcating the exact location (e.g. vertical and horizontal extent and type) of the installed engineered controls, including: geotextile fabric, clean fill, utilities, structures, basins, swales, the storm water detention pond, the SSV system, and all monitoring locations.
 - ii) Analytical results and summary of all post remediation/post construction methane, VOC and air monitoring performed to date, demonstrating compliance with the requirements of this Order.
 - iii) All original laboratory analytical data results from the remedial activities, compliance and confirmation sampling, and clean fill sampling as applicable.
 - iv) A statement from the facility or environmental consultant attesting to the origin of the clean fill and/or loam, and suitability consistent with the RAWP and this Order. Any organic topsoil utilized shall conform to the general vegetated top cover criteria outlined in Rule 2.2.12 of the Solid Waste Regulations.
 - j) The final Department approved ELUR, referenced as document 5 above, shall be recorded in the City of Providence land evidence records of the subject property.
 - k) Long-term maintenance of the engineered controls and portions of the property subject to the ELUR, including annual inspection and certification by an environmental professional.
- 7) The SSV system (including the alarm system) shall be operated and maintained to prevent methane and/or VOC concentrations from reaching or exceeding the remedial Action Levels within any and all occupied structures at the site.
 - 8) Any temporarily stockpiled regulated soils shall be placed upon and covered with polyethylene of thickness at least 6mm or greater to prevent tearing, and segregated from clean fill material to prevent cross contamination.
 - 9) All excess fill material generated on site, shall have all solid waste and debris removed prior to reuse as closure cap subgrade beneath the filter fabric layer.

- 10) Any material discovered during excavation activities that qualifies as "Solid Waste," as defined by the Department's Solid Waste Regulations, must be disposed of at a licensed Solid Waste Facility. This includes, but is not limited to, any solid waste material removed under the proposed building footprint.
- 11) All RAWP activities shall be performed in compliance with all appropriate Office of Air Resources (OAR) Rules and Regulations, including but not limited to the monitoring and control of any air emissions and the timely acquisition of any required Air Pollution Control Permits (Air Permits).
- 12) Any portion of the RAWP or development project conducted on the Site which falls under the jurisdiction of the Department's Freshwater Wetlands Program must be done in accordance with the Rules and Regulations Governing the Administration and Enforcement of the Freshwater Wetlands Act (the Wetlands Regulations), including but not limited to the timely acquisition of a Wetlands Permit.
- 13) Any portion of the RAWP or development project conducted on the Site which falls under the jurisdiction of the Department's Office of Water Resources (OWR), Rhode Island Pollution Discharge Elimination System (RIPDES) Program, must be performed in compliance with all appropriate OWR/RIPDES Rules and Regulations, including but not limited to the timely acquisition of a RIPDES Permit or a General Permit for Storm Water Discharge Associated with Construction Activity as appropriate and/or applicable.
- 14) All waste derived from implementation of the RAWP, the repair and maintenance of the Remedy, or the engineered systems shall be managed in accordance with the Department's Remediation Regulations, Rules and Regulations for Hazardous Waste Management, and Solid Waste Regulations, as appropriate. In accordance with Rule 11.07 (Initiator) of the Remediation Regulations, the City must comply with the requirements of the Solid Waste Regulations, as amended, for all solid waste shipments that they initiate, and documentation of disposal shall be provided to the Office of Waste Management (OWM).
- 15) All fill material brought onto the Site and all soil utilized for the engineered control cap must be compliant with the Department's Method 1 Residential Direct Exposure Criteria pursuant to the Remediation Regulations. All clean fill, including sub-grade material and loam, imported to the site must be sampled in accordance with the RAWP and this Order, prior to delivery and placement. Laboratory analytical results must be submitted to the OWM via fax (401) 222-3812. Written approval (via e-mail, fax or letter) to use the fill must be received from the Department prior to use.
- 16) Within sixty (60) days of completion of the Remedial Action described in the RAWP, a Remedial Action Closure Report, detailing the Remedial Action and current site status, shall be submitted to the OWM for review and approval. The Remedial Action Closure Report shall include a draft Site specific post remediation Soil Management Plan (SMP) and a post

remediation survey and as-built plan, to be recorded with the Department approved ELUR referenced as document 5 above.

- 17) Within thirty (30) days of receiving Department approval of the Remedial Action Closure Report, the City will have the Department approved ELUR recorded in the Providence land evidence records, and submit a recorded (stamped) copy to the OWM within fifteen (15) days of the date that it is recorded.
- 18) Within ten (10) days of submittal of the recorded (stamped) copy of the Department approved ELUR to the OWM, the City shall notify all abutting property owners, tenants, and interested parties that the ELUR has been recorded.
- 19) The City, its representatives, employees, agents and contractors shall adhere to the following timelines in its management, operation and maintenance of the Site.
 - a) The City shall immediately notify the OWM of any Site or operating condition that results in non-compliance with this Order, or that indicates that the Remedy is not meeting its intended goal of preventing human exposure to hazardous materials contained in the former manufacturing facility site.
 - b) The OWM shall be notified in writing immediately if the City suspects or has reason to believe that any of the remedial objectives will not be met.
 - c) The OWM will be notified a minimum of five (5) working days in advance of any changes in contractors and/or consultants for the remedial activities in this RAWP, and will be promptly supplied with complete contact information for each new contractor or consultant (including but not limited to company name and address, contact name and address, contact telephone number and e-mail address).
 - d) Any RAWP interruptions shall be reported to the OWM by telephone within one (1) working day and in writing within seven (7) days.
 - e) All exceedances of the "Action Levels" established in the Order that are detected during any site monitoring activity (including but not limited to monitoring of sub-slab ventilation systems, or interior methane monitors/alarms) shall be reported to the OWM immediately and responded to immediately by the City.
 - f) All equipment shutdowns (intentional and unintentional) or operational problems shall be reported to the OWM immediately. Intentional equipment shutdowns for regular maintenance shall not require immediate notification to the OWM provided that the shutdown is for less than twenty-four (24) hours and the maintenance activity is discussed in the next quarterly report.

- g) All repairs or replacements of equipment or other actions taken in response to any non-compliance with the RAWP shall be completed within fourteen (14) days of discovery of the non-compliant condition. Additional time may be requested from the OWM in writing, provided that the request is supported with a justifiable explanation as to why the work cannot be completed within 14 days and includes a binding timetable for the completion of all work. All requests for additional time shall be submitted to the OWM as soon as the City becomes aware that additional time is necessary, but not later than 14 days from the discovery of the non-compliant condition. Documentation describing the repairs and certifying that the malfunction was corrected and that the equipment is operational must be received by the OWM within 5 (five) days of completion of the repairs.
 - h) All deficiencies in the approved engineered cap (including but not limited to sinking, cracking or excavation of soil, asphalt, cement or foundations) shall be reported to the OWM immediately upon discovery and shall be repaired within fourteen (14) days. Until repairs are made, the City shall prevent access to the deficient areas by staff, students, visitors or the general public. Documentation describing the deficiency, the repairs and certifying that the repairs meet the requirements of the Remedy must be received by the OWM within 5 days of completion of the repairs.
 - i) Any report or notice required to be submitted to the OWM "immediately," shall require verbal notification to the OWM within twenty-four (24) hours and written notification to the OWM within seventy-two (72) hours. The report or notice shall include a description of: the point of non-compliance (e.g. Action Level exceedance, equipment problems); the known or suspected cause for the non-compliance; any response actions taken as of the time of the report or notice; preliminary concepts for response actions to address, correct and/or prevent recurrence of the non-compliance; and a preliminary timetable for the completion of any further response actions. Final plans and timetables for response actions shall be reported to the OWM as soon as they are developed.
- 20) All notifications or reports required to be made or submitted to the Department under this Order, any other information pertinent to the RAWP, and/or any other notification regarding the subject site shall be reported to:

Joseph T. Martella II, Senior Engineer
RIDEM – Office of Waste Management
235 Promenade St., 3rd Floor
Providence, RI 02908-5767

Tel: (401) 222-2797 x7109

Fax: (401) 222-3812

E-mail: joseph.martella@dem.ri.gov

- 21) This Order does not remove the obligation of the City to obtain any other permits, licenses or approvals from any state, local, or federal agencies (including the Department) that may be necessary to comply with this Order.
- 22) It is the City's sole obligation to obtain all necessary approvals and permits required to implement the RAWP in a timely manner consistent with the RAWP schedule and deadlines in this Order.
- 23) The City shall have this Order recorded in the City of Providence, land evidence records of the subject property within thirty (30) days of execution of this Order.
- 24) There shall be no occupation or use of any building, facility or grounds on the Site until all the requirements described in the RAWP and this Order have been met to ensure that the applicable remedial objectives for the site are achieved for all hazardous substances, so as to manage actual or potential risks to human health and the environment for workers, clients, visitors and trespassers at the Site.

Subject to future revisions or amendments by the Department, this Order shall remain in full force and effect for as long as said RAWP shall be operated and maintained in a condition satisfactory to the Department. Failure to comply with all points outlined in the Department approved RAWP and stipulated in this Order shall result in the issuance of a Notice of Violation and Order against the City.

This Order shall be subject to modification or revocation in accordance with law.

Entered as an approval by the Department this 9TH day of June, 2006.

By: 

Leo Hellested, P.E.
Chief, Office of Waste Management
Department of Environmental Management